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For a Service Conception of Epistemic Authority: A Collective Approach

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Abstract. This paper attempts to provide a remedy to a surprising lacuna in the current discussion in the epistemology of expertise, namely the lack of a theory accounting for the epistemic authority of collective agents. After introducing a service conception of epistemic authority based on Alvin Goldman's account of a cognitive expert, I argue that this service conception is well suited to account for the epistemic authority of collective bodies on a non-summativist perspective, and I show in detail how the defining requirements of an expert can apply to epistemic groups.

Keywords: epistemic authority; expert; collective agency; group virtues; Alvin Goldman

1. The Need of Collective Epistemic Authority

Philosophers' interest in cognitive expertise and epistemic authority has recently matured to the point that this topic has become one of the main themes in social epistemology. Current discussion involves several alternative definitions of an expert in the epistemic domain, competing views of the most rational attitude laypeople should adopt in evaluating an epistemic authority's belief or testimony, and further work on how to disentangle cases of disagreement between experts and laypeople as well as between expert peers (see, e.g., Coady 2012; Croce 2018a, 2019; Dormandy 2018; Goldman 2001, 2018; Constantin and Grundmann 2018; Jäger 2016; Lackey 2018; Zagzebski 2012).

However, epistemologists have mostly been concerned with establishing what it takes for an *individual* epistemic subject to be an expert or an epistemic authority, while few words have been spent on determining whether a *collective* agent such as an epistemic group or an institution can be an expert and what it takes for them to be such. Despite social epistemologists' broad interest in the epistemic agency of collectives, this issue is still in need of substantial consideration. The aim of this paper is to draw attention to this lacuna and offer a plausible account of what it takes for a collective agent to possess epistemic authority. To do that, in section 2, I introduce a framework of cognitive expertise—named the *service conception*—that defines an expert based on the function they should fulfil and the features that allow them to satisfy this function. I also suggest a way to refine the framework by shedding light on the intellectual abilities experts need to possess. Section 3 explains how the framework can be extended to cases in which the expert is a collective body, while section 4 illustrates some benefits of this proposed model of collective epistemic authority.

Before we delve into the analysis, the project needs to be motivated. Why is it so important that we lay out an account that can accommodate the expertise of collective agents?¹ The general

¹ I am grateful to an anonymous referee of this journal for raising this question.

motivation is grounded in the limits of mainstream individualistic epistemology, as in the Cartesian tradition that has dominated the epistemological discussion for centuries. According to this tradition, epistemology amounts to an inquiry into the ‘mental operations of cognitive agents in isolation or abstraction from other persons’ (Goldman 1999, 4), where epistemic self-reliance is taken to be the main aim of epistemic agency. Fortunately, in the last decades this approach has been called into question by social epistemologists. As they rightly noticed, traditional epistemology fails to take into adequate consideration that our epistemic agency heavily relies on social sources of evidence and that collective entities may possess doxastic attitudes of the kind individual subjects possess (Goldman and Blanchard 2015).²

This critique of Cartesian epistemology provides a specific motivation for a collective account of epistemic authority by pointing out that a substantial portion of our epistemic inquiry is conducted by collective agents of various sorts. This is obviously true of scientific and academic inquiry where most results are achieved by research teams and labs,³ but it also applies to other epistemic endeavors such as information-gathering processes in journalism and assessments of legal evidence in court, where single professionals join their skills and epistemic resources together to achieve a joint epistemic goal. Since these days most information- and knowledge-producers are in fact collective agents, it becomes fundamental that we have an effective and reliable way to assess whether they possess epistemic authority. For if we do not know what it takes for them to be experts, we cannot evaluate which sources to trust.

2. A Service Conception of Epistemic Authority

Extant accounts of expertise range from works in philosophy grounded in various traditions⁴ to works in political theory (e.g., Turner 2014), psychology (e.g., Shanteau 2002), and social sciences (e.g., Collins and Evans 2007). Clearly, an overarching theory of expertise cannot but draw on such a wide and interdisciplinary literature. For the purposes of this paper, though, I shall focus on the narrower epistemological issue of what it takes for one to be a cognitive expert—that is, on the expertise pertaining to an agent’s propositional knowledge—as it has been the focus of a recent literature drawing on social and virtue epistemology.⁵

Specifically, I engage with the *service conception* of epistemic authority, namely the view that experts are defined by the function they perform within an epistemic community. This approach was originally proposed by Joseph Raz in the political domain (e.g., Raz 1986, 56) but has been recently adopted in the epistemological debate by Linda Zagzebski, according to whom someone

² It is worth pointing out that another significant critique of individualistic epistemology has been proposed by feminist epistemologists, who denounce the limits of its alleged neutrality, in particular as regards the idea that facts about an epistemic subject’s identity or social background cannot affect our epistemic assessments. See Grasswick (2018) for relevant discussion.

³ Most accounts of the division of cognitive labor stress that competition among scientists is more effective than cooperation (see, e.g., Kitcher 1990; Strevens 2003; Zollman 2010). However, as Muldoon has recently argued (2017), a plausible account of the division of cognitive labor needs to explain the role scientific collaboration plays in current scientific endeavours, in that ‘the data suggest that collaborations are becoming increasingly integral to scientific production’ (80). Arguably, the larger is the role of collaboration in science, the more fundamental it becomes to have an account of collective epistemic authority.

⁴ For an approach to expertise grounded in social and virtue epistemology, see, e.g., Coady (2012); Goldman (2001, 2018); Zagzebski (2012). For a phenomenological approach, see Dreyfus and Dreyfus (1991). For an approach grounded in the psychological literature on skills, see, e.g., Stichter (2018).

⁵ I shall leave aside questions regarding know-how and practical expertise—i.e., the expertise pertaining to an agent’s ‘competence at performing a task’ (Watson 2018, 40).

is an epistemic authority insofar as they are more likely to get the truth than laypeople are (2012, 109). In this essay, I shall focus on Alvin Goldman's account of an expert, according to which in order to define what it takes to be an expert we need to refer to 'what experts can do for laypersons by means of their special knowledge or skill' (2018, 3). On his approach, a compelling definition of an expert should explain 'what expertise *is* by reference to what experts can *do* for laypersons by means of their special knowledge or skill' (3). Although Goldman does not explicitly endorse the service conception of authority, his functionalist approach to expertise falls in line with the main assumption of a service conception, or so I shall contend. On his view, an account of an expert should provide a *functional definition* of an expert and a *possession condition* that individuates what it takes for a subject to fulfil that functional definition. As regards the functional definition, Goldman holds that a subject S is an expert in domain D if and only if

[CAP] S has the capacity to contribute to the epistemic progress of D. S can provide such help by offering true answers to the questions under dispute in D (2001, 91).

As regards the possession condition, a subject S is an expert in domain D if and only if

[TL] S has more true beliefs and/or fewer false beliefs than most people do in D (91).

I will call this view of expertise the *research-oriented account*, in that it is clear that the role experts play in the epistemic community on Goldman's approach is to contribute to the research in their domain by answering the unsolved questions of their field.⁶

As I have recently noticed elsewhere (2019), both conditions of the research-oriented account need to be refined. I shall briefly point out two ways the account should be amended. First, notice that the proposed version of the possession condition—or, following Goldman, truth-linked condition (2018, 4)⁷—can be fulfilled by any subject who fulfils both or either of the following requirements:

[TLa] S possesses more true beliefs than most people do in D;

[TLb] S possesses fewer false beliefs than most people do in D.

This is problematic for two reasons. The first reason is that it might be the case that a scientist forms false beliefs while attempting to settle a longstanding problem in their discipline. In such a case, the scientist would display more true beliefs and more false beliefs than most people in the scientist's domain, but this should not undermine their epistemic superiority in the field. The second reason is that, surprisingly enough, epistemically negligent subjects can fulfil Goldman's possession condition of expertise simply by avoiding any risk of forming false beliefs at the cost of not acquiring true beliefs. For they would satisfy TLb in virtue of their negligent attitude, which leads them to possess fewer false beliefs than most people do in a domain. These considerations suffice to show that TLb should neither be a sufficient nor a necessary component of the truth-

⁶ See Buekens and Truyen (2014) for a critique of Goldman's veritistic approach and an alternative account of expertise on which both accuracy and reliability are necessary conditions of cognitive expertise.

⁷ For a discussion of the limits of an account of expertise based on truth-linked or track-record requirements, see Martini 2014.

linked condition.⁸ I propose that we replace Goldman's original definition of an expert with a stronger one, according to which S is an expert if and only if

[TLa] S possesses more true beliefs than most people do in D.

The second amendment to Goldman's account of expertise concerns the relationship between TLa and CAP; specifically, it amounts to whether the truth-linked condition puts one in a position to fulfil the main function of experts: contributing to the epistemic progress of their discipline. It seems evident that TLa needs to be supported by further requirements, in that there might be a case in which someone possesses more true beliefs than most people in some domain simply because they learnt all these propositions by heart. I take it that we would not be willing to consider this person an expert. A prominent way to cash out the difference between an expert-by-heart and an authentic expert in light of Goldman's CAP is to appeal to the abilities that allow the latter to contribute to the research in their field. Without presuming to arrive at a conclusive set of dispositions, I shall contend that Goldman's research-oriented account of an expert involves at least the following set of intellectual virtues:

Research-oriented abilities: virtues that allow an epistemic subject to exploit their fund of knowledge to find and face new problems arising within their field of expertise (e.g., thoroughness, self-scrutiny, intellectual curiosity, intellectual creativity, open-mindedness, intellectual courage, and autonomy).

The thesis that a suitable definition of a cognitive expert involves a dispositional element such as intellectual virtues has been criticized by David Coady, who has recently pointed out that possession of these abilities should be considered as 'evidence that someone is an expert, rather than as part of what it is to be an expert' (2012, 29). I disagree with Coady, as I think someone may fulfil TLa by means of their intellectual talent yet still fail to possess the capacity to contribute to the epistemic progress of their discipline (see Croce 2019, 18). For instance, one may lack the curiosity that makes one ask good questions about the problems of the domain, the creativity that makes one find possible answers to those problems, the open-mindedness that allows one to consider alternative standpoints, the thoroughness that is necessary to notice opportunities for progress in small details, or the courage that allows one to defend their view in the face of potential harm.

These considerations support the idea that possessing research-oriented abilities is a necessary condition for someone who has more true beliefs than most people in a domain to satisfy the functional definition of expertise on the research-oriented account (*i.e.*, CAP). The analysis of Goldman's account of an expert proposed in this section allows us to conclude that in order for an epistemic subject S to satisfy CAP, it is necessary that S possess (i) more true beliefs than the majority of people in a domain and (ii) research-oriented abilities.⁹

⁸ See Croce (2018a, §3.1) for further considerations on the truth-linked condition in Goldman's account.

⁹ Elsewhere, I have proposed to replace the truth-linked condition in Goldman's account of an expert with an understanding-linked condition (2019, 9-12). Here I limit myself to acknowledging this possibility, which I set aside because of the complexity of extending the notion of understanding to collective bodies. A few inspiring remarks on group understanding can be found in Brady (2016).

As a final note, let me consider a potential objection to this account of an expert. Some might want to reject the research-oriented view on the grounds that it is unable to account for the significant role that experts have in our epistemic communities, namely that of providing laypeople with accurate information they may lack in various areas (henceforth, the *novice-oriented function*). On closer inspection, this objection does not provide compelling reasons against the research-oriented view. In order for one to fulfil the novice-oriented function, it is not necessary that they be an expert, namely that they have more true beliefs than *most people* do in a domain. Rather, it is sufficient that they have more true beliefs than *the interlocutor* has in that domain. For example, my friend Matt can easily fulfil the novice-oriented function by teaching me what he knows about Caribbean music, simply because I know nothing about that musical tradition. But this fact does not make him an expert on the topic, in that he does not possess more true beliefs about Caribbean music than most people do in that field. This argument shows that ordinary epistemic subjects can easily satisfy the novice-oriented function insofar as they are in an epistemically privileged position with respect to their interlocutor; thus, the novice-oriented function cannot be a *sufficient* functional definition of an expert.

But could the novice-oriented function be a *necessary* component of the functional definition of an expert? I take it that we should answer this question in the negative, and I shall provide an example to motivate this answer. Suppose a chemistry researcher who has contributed to the progress of the discipline through her research and publications is completely deprived of social skills to the extent that she conducts her work in isolation, has no students, and merely does what is necessary to keep her research position at her institution. Her research achievements prove that she possesses more true beliefs than most people do in chemistry (TLA) and that she contributed to the epistemic progress of the discipline (as required by CAP). This should grant that she is an expert in chemistry no matter whether she fails to be a good teacher. If so, then the capacity to help laypeople acquire knowledge in a domain fails to be a necessary function of experts and therefore the objection fails to undermine the research-oriented view of cognitive expertise.¹⁰

3. For a Collective Account of Experts: Group Beliefs and Collective Virtues

The research-oriented view of an expert I defended in the last section accounts for the epistemic authority of *individuals* that fulfil the above requirements. My aim in this section is to show that the model can apply to *collective agents* such as epistemic groups, research teams, and professional units, thereby providing us with an account of what it takes for a group to be an expert. The model purports to do so in an elegant fashion, namely by showing that a collective agent can fulfil both requirements of the possession-condition of expertise, namely having more true beliefs than most people do in a domain and possessing research-oriented abilities. I will assume that even collective agents have to fulfil CAP, i.e. the functional definition of an expert on Goldman's view, as there is no reason why the function of an individual expert should differ from the function of a collective one.

To achieve the goal of this section, I shall accomplish two tasks: the first is to prove that some groups can be epistemically superior to others, while the second is to show that they can display

¹⁰ See Croce (2019, §§4-5; 2018b, §3) for detailed discussion of the research-oriented and novice-oriented functions of experts. The view proposed here is compatible with an ideal situation in which experts are also effective and inspiring teachers. Yet, the purpose of the above arguments is to clarify that one can fail to be an effective and inspiring teacher and nonetheless be an expert in some field (2019, 20).

intellectual virtues such as research-oriented abilities. The viability of the former task rests on important work on collective intentionality and group knowledge (e.g., Bird 2010; Gilbert 2013; Lackey 2014; Tuomela 1992), whereas to accomplish the second task I shall rely on Miranda Fricker’s account of institutional virtues (2010).

3.1 *The Epistemic Superiority of Collective Agents*

When it comes to collective knowledge, there are two main approaches one could take. According to *summativism*, a widely shared view in mainstream epistemology, a group *G* knows that *p* iff every member or most members of *G* know that *p*. On such an account, we should contend that the sales department of Zara knows that the factory closes at 3:00 pm tomorrow if and only if most members of that department know about the early closure. In contrast, those who feel the pull to hold that groups can have or lack knowledge despite what their individual members may know will side with *non-summativism*. There is more than one version of this view, but I shall focus on *moderate non-summativism*, according to which a group *G* can know that *p* even when not a single individual member of *G* knows that *p*.¹¹

This account commonly requires that individual members, despite lacking individual knowledge that *p*, share a joint commitment to the proposition that *p*, or accept that *p*. For example, a group of engineers who are testing a new material to create drones can know that the material is sufficiently resilient even when every member does their own specific part of the test and inserts their results into a computer that autonomously connects all the information and makes a reliable prediction. On a moderate non-summativist reading of this case, the team as a whole knows that the new material meets the required standards of resilience, even though no single engineer possesses this knowledge.¹²

Having laid out the main approaches to group knowledge, we can start reflecting on their suitability for our purposes—that is, on whether we can apply them in setting up a collective epistemology of expertise. The ideal scenario is one in which we could remain neutral as to which account of group knowledge works better in our framework. However, when it comes to the epistemology of expertise we cannot but point out that non-summativism has better prospects for integration with the model proposed above, in that this view is better placed to account for a fundamental principle of any scientific enterprise: the division of cognitive labor.

Summativism does not seem to be compatible with contemporary scientific teamwork because it is committed to maintaining that for a group such as a research team of experts to know that *p*, most or all individual members of the team should know that *p*. But the organization of science—especially in interdisciplinary works—is such that more and more people are assigned specific tasks within a broad project while fewer and fewer people are in charge of analyzing the results and drawing the right conclusions. Hence, it is not surprising that at the time of the publication of a scientific team’s results (*p*), only a few members of the team know that *p*. In contrast, moderate non-summativism allows us to hold firm that the team as a body knows that *p* insofar as individual

¹¹ See Lackey (2014) for a version of *moderate non-summativism*. In contrast, *radical non-summativism* holds that a group *G* can know that *p* even when not a single member of *G* is aware that *p*. See Bird (2010) for a version of radical non-summativism, and Carter (2015) for a clear overview of the divide in the epistemology of groups.

¹² Another set of cases that meet the requirements of *moderate non-summativism* includes situations in which all or most individual members of a group *G* are aware that *p* yet do not believe it for some reason. For an example, see Carter (2015, 714n8).

team members jointly commit to pursuing the project with its proposed aims and structures and to accepting the results of the study as conveyed by the people in charge.

Once plausible accounts of group knowledge have been introduced and discussed, it takes only a few steps to get to a collective version of the truth-linked condition for expertise. From a non-summativist perspective, proving that a group can satisfy TLa becomes merely a matter of a comparative evaluation of the epistemic standings of various agents. In fact, all we need to do is show that collective entities can have more true beliefs than other agents in some domain. Specifically, a group G (e.g., a team of oncologists at the European Institute of Oncology) fulfils TLa in domain D (e.g., the domain of oncology) insofar as G has more true beliefs than most subjects and groups have in D.

3.2 *Collective Agents and Their Intellectual Virtues*

Let us move now to the second part of the job: to illustrate how collective agents can possess intellectual virtues and, in particular, research-oriented abilities. To accomplish this task, I shall rely on Fricker's (2010) twofold model of group virtues, which applies Gilbert's notion of joint commitment to group *motives* and group *ends*. Fricker introduces the distinction between motives and ends because she wants to highlight that her model is suitable for both *motive-based* virtues and *skill-based* virtues.

As an example of the former, she mentions kindness, compassion, charity, and generosity. For an agent to possess motive-based virtues, they need to fulfil two requirements. First, they need to commit to achieving the good end of the motive for the right reason, namely by acknowledging that it is good to have the motive which, other things being equal, will bring about further good. Second, they need to reliably exercise the virtue in the appropriate circumstances. For example, in order for one to display kindness, it is not sufficient that they help the first old passer-by cross the road. Rather, one is authentically kind insofar as they reliably adopt this attitude out of a commitment to the motive of kindness as they judge that it is intrinsically good to have this trait. For the value of motive-based virtues lies in possessing their good motives, not in the further goods they bring about.

In contrast, the latter type of virtues includes traits such as vigilance, honesty, justice, and inventiveness that an agent can naturally possess without possessing virtuous motives, insofar as, first, they commit to bringing about the virtuous end; and second, they reliably exercise the virtue in the appropriate circumstances, no matter how conscious of its intrinsic value they are. For example, for a soldier to possess the virtue of vigilance, she needs to commit to achieving the end of vigilance through a reliable method—by, say, being on the alert for enemy movement—even though this attitude is somehow part of her background military training and she has never reflected on its good outcomes. For the value of skill-based virtues merely lies in bringing about their good ends.

Let us now analyze how Fricker's model accounts for motive-based virtues and skill-based virtues when the virtuous agent is a collective. On the one hand, what allows a group to display a motive-based virtue is the fact that (a) its members jointly commit to the *motive* of that virtue and (b) the group proves to reliably achieve this end. As regards requirement (a), a joint commitment is in place if all individual members express their 'readiness to be jointly committed to espouse the relevant goal [the motive of the virtue] as a body' (Gilbert 2013, 32).

Let us consider a relevant case for the purposes of this paper. Imagine an expert team of biologists who jointly commit to a research-oriented ability such as open-mindedness. Fricker's view grants that the team is open-minded insofar as its members have the appropriate motivation, that is, if they are willing to join forces in adopting an open-minded behavior because they acknowledge that the trait is good *per se* and hence displaying it would contribute to the flourishing of the group and the scientific community. Requirement (b) captures a widely shared idea among virtue theorists according to which an agent's character trait amounts to a virtue insofar as the agent is reliably successful in bringing about the specific end of the virtue.¹³ The team of biologists fulfils this condition insofar as it proves to be open-minded in its research and agency by, for example, refraining from dismissing opposing theories and studies, being willing to reconsider their theories in light of counter-evidence, and counteracting confirmation bias and similar forms of prejudice.

It is important to notice that the team might display open-mindedness even if its members, taken individually or outside their professional activity, lack the virtuous trait. On Fricker's non-summative or collectivist account, this can be explained by pointing out that each of us has various practical identities, which can sometimes be in tension with each other. Thus, it might be the case that a subject has a virtue only as a member of some group and not as a private individual (2010, 238).

On the other hand, Fricker's account of a group's skill-based virtues partly differs from the previous one in that they share condition (b) but not condition (a). In fact, a group possesses a skill-based virtue insofar as (a*) its members jointly commit to the *end* of that virtue and (b) the group proves to reliably achieve this end. Let us apply the account to another case of a research-oriented ability. Consider again the team of biologists and suppose all members jointly commit to taking a public stand against anti-vax and defending the value of their research despite its unwelcome implications for the current government's political agenda. In such a case, the absence of a joint commitment to the virtuous motive of intellectual courage is replaced by the team's pooling their faculties and jointly committing to bringing about the virtuous end of intellectual courage through the division of labor, as required by Fricker (243). For example, we can suppose that some members take care of drafting a public statement meant to explain the value of the team's research to a wide audience, others discuss how to respond to political attacks, and a third group engages with the institution's administrative board to look for their support in the public debate.

Based on these considerations, I think we can agree with Fricker that the team of biologists displays intellectual courage even though its members lack full awareness that they individually possess this trait and the appropriate motivation.¹⁴ For, as we have already seen in the soldiers case, an agent—here, a collective agent—can develop skill-based virtues despite a lack of motive insofar as their performance reliably brings about the virtuous end.

The two cases of the team of biologists are examples of how a collective agent can display relevant intellectual virtues for the service conception of epistemic authority. However, this view of collective intellectual virtues brings with it at least two problems we need to address here. The first issue concerns how research-oriented abilities map onto Fricker's twofold account of virtue. I am inclined to think that this set of intellectual virtues can either develop as motive-based virtues

¹³ See, in particular, Zagzebski's account of a virtue as involving a motivational component and a success component (1996, §2).

¹⁴ See Lahroodi (2007) for further considerations on members' awareness in relation to group virtues.

or as skill-based ones depending on the specifics of the case in question. Several virtue theorists would resist the idea that one can be, for example, intellectually courageous while lacking the respective motivational state, as we commonly conceive intellectual courage as a virtue of intellectual character that arises out of an agent's love of truth.¹⁵ Nonetheless, I shall grant that an expert group can display this virtue simply because its members jointly commit to performing their task but divide the labor in such a way that their agency reflects the group's trait.¹⁶

Let us set aside this issue and consider an objection against the collectivist spirit of Fricker's account recently raised by Sean Cordell (2017). Specifically, the objection tackles the idea that joint commitments to a motive or an end of a virtue are irreducible to personal commitments. Cordell accepts that joint commitments involve 'hat-wearing' members who have different practical identities and therefore act as they do in light of their roles as members of a group (e.g., the biologists jointly commit to open-mindedness qua members of the team, yet they might individually lack this trait when acting alone or in other spheres of their agency). However, he argues that joint commitments boil down to individuals' commitments because in fact 'it is individuals who make their group-oriented joint commitments albeit crucially, and only, when wearing their 'hats' which comprise their institutional social role and its obligations' (Cordell 2017, 48).

I shall resist Cordell's objection by arguing that the mere fact that group virtues involve individuals' commitments does not undermine the irreducibility of group virtues to individual ones; that is, it does not reduce Fricker's account to a summativist view of collective virtues. For it should be taken for granted that all members of the group have to do their own part—that is, individually commit to the motive or the end of a virtue—in order for the group to display the collective virtue. The same is true of non-summativist accounts of group knowledge where, as the example of the team of engineers shows (see §3.1), each member's contribution to the test makes it possible that the group as a whole acquires knowledge about the new material's resilience. But much as, in the engineers case, group knowledge does not boil down to each member's work on a part of the test because each member may in fact lack knowledge of the result of the test, so, in the biologists case, group virtue does not boil down to each biologist's individual commitment to the motive of open-mindedness (or the end of intellectual courage) because each biologist may in fact lack open-mindedness (or intellectual courage).

Furthermore, as Gilbert pointed out, individual commitments on the part of group members are best intended as *dependent individual commitments* that (i) only exist through the joint commitment, (ii) aim at promoting its object, and (iii) are *simultaneous*—that is, they 'come into being simultaneously at the time of the creation of the joint commitment' (2013, 41). Thus, although it is true that for a group to possess a collective virtue something is required from each individual member, that is not enough to reject a non-summativist account of collective virtue.¹⁷

4. The Benefits of a Service Conception of Collective Expertise

¹⁵ See, e.g., Annas (2011) and Zagzebski (1996). In contrast, Driver (2013) and Stichter (2018) endorse a model of virtues as practical skills that captures some features of the proposed account. See also Chi (2006, 24) and Dreyfus-Dreyfus (1991) for psychological evidence supporting the thesis that possession of a virtue does not always require the capacity to articulate one's reasons.

¹⁶ See, e.g., Pritchard (2018) for a clear examination of the distinction between motive-based intellectual virtues and skill-based cognitive faculties.

¹⁷ For another worry against Fricker's collectivist account of group virtue, see Cordell (2017, 48-50).

In the last section, I showed how possession of research-oriented abilities can be attributed to a collective agent based on Fricker's non-summative account of group virtues. Before putting together the proposed conditions of collective epistemic authority, I shall point out that the plausibility of my account should not become hostage to a non-summative model of group virtues. In fact, it is compatible with the functional definition of an expert introduced in §2 (i.e., CAP) that a collective agent possesses a virtue insofar as each member individually possesses that virtue. Thus, those who are not convinced by my arguments in favor of a non-summative approach can still find scope for an account of collective epistemic authority in the service conception, or so I shall argue.

Let us combine the conditions proposed in the last sections and outline the service conception on a collective level:

[Collective Expert] A group *G* is a collective expert in domain *D* if and only if (i) *G* has more true beliefs than most agents have in *D* and (ii) *G* possesses research-oriented abilities.

As should be evident, condition (i) amounts to a collective version of TL_a. I endorse a non-summative reading of this condition because, as I argued in §3.1, the dynamics of scientific research are such that a group as a whole can retain knowledge that *p* when its members in fact lack knowledge that *p*. Condition (ii) extends to collective bodies the requirement that an expert needs to possess research-oriented abilities.

On the proposed non-summative reading, a group can possess these virtues even if its members, taken individually, fail to have them. This allows us to explain why, say, a scientific team is intellectually curious or open-minded even though some of its members lack such traits. In other words, it allows us to assess whether a collective agent possess a virtue based on the group's attitudes and actions as a whole, no matter whether its members, taken individually, possess the virtue. Those who endorse a summative view of group virtues can read (ii) along their favored lines and contend that a group possesses research-oriented abilities insofar as all (or most) members of the group possess those intellectual virtues and deploy them in joint activities.

Adopting a service conception of epistemic authority to define what it takes for one to be a collective expert can improve our understanding of cognitive expertise in several ways.¹⁸ First, it allows us to shed light on the weakness of a collective version of a purely veritistic, or truth-linked, account of expertise such as Coady's (2012), according to which fulfilling a truth-linked requirement such as condition (i) suffices to attribute collective expertise to a group. The scope of such an account would be very limited, for it would at best allow us to flag and possibly isolate fake experts or unreliable sources of information. Let's be clear: this is a fundamental feature of an account of cognitive expertise, especially given the widespread amount of misinformation and fake news we encounter on the media and social networks. However, we should aim for something more.

By requiring that collective experts need to possess research-oriented abilities, the service conception of epistemic authority provides us with the resources to identify those groups—for example, teams of scientists or labs—that have more prospects to make a contribution to the epistemic progress of a discipline through their research, and to distinguish them from those groups

¹⁸ I am grateful to an anonymous referee of this journal for calling attention to this point.

that fulfil a novice-oriented function by helping laypeople acquire true beliefs in some domain (see §2). This feature of the service conception is not only epistemologically but also socially and politically significant, in that it puts policy makers in a position to decide which kind of groups need to be supported more depending on whether they want to foster institutions that have the capacity to innovate or institutions that can help laypeople improve their epistemic competence in some domain.¹⁹

Finally, including group virtues in the definition of collective epistemic authorities could provide collective bodies that aim at fostering the epistemic progress of our communities with directions for ameliorating their agency. A genuine inquiry into the abilities that experts need to possess depending on the function they are supposed to fulfil would in fact allow them to contrast their activity with the ideal requirements of a virtuous collective expert and evaluate how they could better perform their social and epistemic role. For as Goldman points out, ‘if we wish to raise our intellectual performance, it behooves us to identify those traits which are most in need of improvement’ (1978, 511), and there is no reason why this claim should not be true also of collective agents.²⁰

Let me take stock. In this paper, I tried to outline a collective account of expertise based on what I have called a service conception of epistemic authority (§2). I have done so by providing a collective version of a truth-linked condition (§3.1) and by showing that we can demand that collective experts possess research-oriented abilities since groups can have virtues (§3.2). Finally, I shed light on some epistemic and social benefits of the proposed account of expertise (§4). The main goal of this paper was to suggest a way to fill a significant lacuna—that is, the absence of an account of a collective expert in the epistemological literature. I hope the paper has contributed to filling such gap and in the next years the literature on collective epistemic authority will continue to grow.²¹

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¹⁹ In other words, the social significance of distinguishing between groups that fulfil a research-oriented function and groups that fulfil a novice-oriented function is to offer a theoretical justification for implementing strategies to measure the quality of research and teaching of various institutions at a national and international level.

²⁰ Recent work in vice epistemology (e.g. Cassam 2016) could contribute to the understanding of expertise in the opposite way—i.e., by shedding light on the intellectual vices that prevent a group or an institution from becoming an expert collective. See, e.g., Lefevere and Schliesser (2014) for considerations on collective negligence and the responsibility in science.

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